

IN THE CLAIMS

The current claim set of the application is presented below. Indications as to the status of the claims (“original”, “currently amended”, “cancelled”, “new”, etc.) appear in parentheses after the claim number. Deletions are identified in bold with double brackets and strikethrough (e.g. ~~[[deletion]]~~) and new text is identified in bold with underlining (e.g. **new language**).

1. (Currently Amended) An implantable therapy delivery and / or diagnostic device, comprising:
 - a fixation element adapted to secure the device to an implant site;
 - one or more elongate conductors extending within the device;
 - a polymeric layer overlaying a portion of the device in proximity to the implant site and including an outer surface;
 - an electrode positioned along the polymeric layer and comprising multiple coil turns; and
 - a layer of a catalytic agent, having nitrite reductase and / or nitrate reductase, or nitrosothiol reductase activity, present on the outer surface of the polymeric layer and being exposed between the coil turns;
 - wherein the catalytic layer converts nitrite/nitrate or nitrosothiols found in the blood to nitric oxide **and wherein the catalytic layer is only present on the polymeric layer in an area along which the electrode is positioned.**

2. (Original) The device of claim 1 wherein the polymeric layer is formed of a material selected from the group consisting of silicone, polyurethane, PTFE and expanded PTFE.

3. (Original) The device of claim 1, wherein the polymeric layer further includes a bulk matrix containing a reservoir of lipophilic salts or nitrite/nitrate or nitrosothiols that can leak to the layer of catalytic agent.

4. (Original) The device of claim 1, further comprising an elongate body, which carries the one or more conductors, and wherein the polymeric layer forms the device body.
5. (Original) The device of claim 4, wherein the polymeric layer is a multilumen tube.
6. (Currently Amended) The device of claim 4, wherein the electrode ~~[[being]]~~ is coupled to a one of the one or more conductors and is overlaying the outer surface of the polymeric layer; wherein the one of the one or more conductors includes an electrically conductive wire.
7. (Currently Amended) The device of claim 4, wherein the electrode ~~[[being]]~~ is coupled to a one of the one or more conductors and is partially imbedded in the outer surface of the polymeric layer; wherein the one of the one or more conductors includes an electrically conductive wire.
8. (Original) The device of claim 1, further comprising an elongate body, which carries the one or more conductors, and wherein the polymeric layer overlays the device body.
9. (Original) The device of claim 8, wherein the device body is a multilumen tube.
10. (Currently Amended) The device of claim 8, wherein the electrode ~~[[being]]~~ is coupled to a one of the one or more conductors and is overlaying the outer surface of the polymeric layer; wherein the one of the one or more conductors includes an electrically conductive wire.

11. (Currently Amended) The device of claim 8, wherein the electrode ~~[[being]]~~ is coupled to a one of the one or more conductors and is partially embedded in the outer surface of the polymeric layer; wherein the one of the one or more conductors includes an electrically conductive wire.

12. (Original) The device of claim 8, wherein the polymeric layer includes a plurality of pores extending therethrough and the device body contains a reservoir of lipophilic salts or nitrite / nitrate or nitrosothiols which can leak to the layer of catalytic agent.

13. (Currently Amended) The device of claim 8, wherein the electrode ~~[[being]]~~ is coupled to a one of the one or more conductors and overlaying the device body; wherein the one of the one or more conductors includes an electrically conductive wire and wherein the polymeric layer extends over the coil electrode and allows electrical conduction therethrough.

14. (Original) The device of claim 8, wherein the polymeric layer further includes a bulk matrix containing a reservoir of lipophilic salts or nitrite/nitrate or nitrosothiols that can leak to the layer of catalytic agent.

15. (Original) The device of claim 1, further comprising:
a physiological sensor capsule coupled to the one or more conductors;
wherein the outer surface of the polymeric layer overlays a portion of the sensor capsule; and
the one or more conductors includes an electrically conductive wire.

16. (Original) The device of claim 1, further comprising a polymeric plug held within the polymeric layer, the polymeric plug containing a reservoir of lipophilic salts or nitrite/nitrate or nitrosothiols that can leak to the layer of catalytic agent.

17. (Original) The device of claim 1, further comprising:

a distal tip electrode coupled to a one of the one or more conductors and adapted to stimulate the implant site;

a polymeric plug held within the polymeric layer and containing a reservoir of lipophilic salts or nitrite/nitrate or nitrosothiols that can leak to the layer of catalytic agent;

wherein the layer of catalytic agent is positioned in close proximity to the tip electrode; and

the one of the one or more conductors includes an electrically conductive wire.

18. (Original) The device of claim 17, wherein the polymeric plug is formed of a material selected from the group consisting of silicone and polyurethane.

19. (Original) The device of claim 1, wherein the catalytic agent comprises a biocatalytic agent.

20. (Original) The device of claim 1, wherein the catalytic agent comprises a biomimetic catalytic agent.

21. (Original) The device of claim 20, wherein the biomimetic catalytic agent comprises a Cu(II) metal ion ligand complex.

22. (Currently Amended) An implantable medical electrical lead comprising:
a distal fixation element adapted to secure the medical electrical lead to an implant site;
one or more elongate electrical conductors;
a lead body having an outer surface;
an electrode (i) positioned along the lead body comprising multiple coil turns, ~~[[the electrode being]]~~ (ii) coupled to a one of the one or more conductors, (iii) adapted to stimulate in proximity to the implant site, and (iv) including an outer surface;
and

a layer of a catalytic agent, having nitrite reductase and / or nitrate reductase, or nitrosothiol reductase activity, attached to the outer surface of the electrode and to the lead body between the coil turns;

wherein the catalytic layer converts nitrite/nitrate or nitrosothiols found in the blood to nitric oxide **and wherein the catalytic layer is only present on the polymeric layer in an area along which the electrode is positioned.**

23. ~~(Cancelled) The lead of claim 22, wherein the the electrode further includes a porous side wall and further comprising a polymeric plug held within the electrode side wall; the plug containing a reservoir of lipophilic salts or nitrite/nitrate or nitrosothiols that can leak through the porous sidewall to the layer of catalytic agent.~~

24. (Currently Amended) The lead of claim **[[23]] 29**, wherein the polymeric plug is formed of a material selected from the group consisting of silicone and polyurethane.

25. (Original) The lead of claim 22, wherein the catalytic agent comprises a metal ion ligand complex.

26. (Original) The lead of claim 22, further comprising a porous layer overlaying the layer of catalytic agent.

27. (Cancelled)

28. (Currently Amended) An implantable therapy delivery and / or diagnostic device, comprising:

- a fixation element adapted to secure the device to an implant site;
- one or more elongate conductors extending within the device;
- a polymeric layer overlaying a portion of the device in proximity to the implant site and including an outer surface;

an electrode extending over the polymeric layer comprising multiple coil turns;
and

a layer of a catalytic agent present on the outer surface of the polymeric layer
being exposed between the coil turns;

wherein the catalytic layer converts nitrite/nitrate or nitrosothiols, found originally
only in the blood, to nitric oxide **and wherein the catalytic layer is only present on
the polymeric layer in an area along which the electrode is positioned.**

29. (Currently Amended) An implantable therapy delivery and / or diagnostic device
comprising:

a fixation element adapted to secure the device to an implant site;
one or more elongate conductors extending within the device;
**a polymeric layer overlaying a portion of the device in proximity to the
implant site;**

an electrode coupled to a one of the one or more conductors and
having a body including a sidewall having a plurality of pores;
a plug held within the porous sidewall and including a layer of catalytic agent,
having nitrite reductase and / or nitrate reductase, or nitrosothiol reductase activity
present on an outer surface of the plug;

wherein the catalytic layer, exposed to blood through the plurality of pores, converts
nitrite/nitrate or nitrosothiols in the blood to nitric oxide.

30. (Currently Amended) An implantable therapy delivery and / or diagnostic device,
comprising:

a fixation element adapted to secure the device to an implant site;
one or more elongate conductors extending within the device;
a polymeric layer overlaying a portion of the device in proximity to the implant site
and including an outer surface;

an electrode positioned along the device and coupled to a one of the one or more conductors, wherein the polymer layer extends over the electrode and allows electrical conduction therethrough; and

a layer of a catalytic agent, having nitrite reductase and / or nitrate reductase, or nitrosothiol reductase activity, present on the outer surface of the polymeric layer;

wherein the catalytic layer converts nitrite/nitrate or nitrosothiols, found solely in the blood, to nitric oxide.